

# Work Order ID 81509

\*81509\*

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March-15-12 8:09:36 AM

Item ID: D412-666-011

Accept

\*N9000040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Gross Weight Towing

Start Date: 15/03/2012 Start Qty: 2.00

\*2\*

Cust Item ID:

Required Date: 29/03/2012 Req'd Qty: 2.00

\*2\*

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/03/15

Tooling:

Date:

Run Start \*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
IIN D412-666	Rev C1

100	DOCUMENT CONTROL	0.00							
*100*									
DC	Memo	0.00							
Document Control	Photocopy bluefile & type labels per PPP412-666-011								

CHG 004

110	Pick Kit	0.00							
*110*									
Packaging	Memo	0.00							
Packaging									

120	QC4- 100% Inspect kits for completeness	0.00							
*120*									
QC	Memo	0.00							
Quality Control									

*Handwritten:* JH Per MLJ 12-5-15 (2)

*Handwritten:* 2 12/05/16 JB

*Handwritten:* S. L. L.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 81509****\*81509\***

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March-15-12 8:09:36 AM

Item ID: D412-666-011

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Item Name: Gross Weight Towing

Stop **\*NS2\***

Start Date: 15/03/2012 Start Qty: 2.00

**\*2\***

Cust Item ID:

Required Date: 29/03/2012 Req'd Qty: 2.00

**\*2\***

Customer:

Reference:

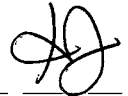
Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
<b>*130*</b>	Packaging					Z		See 12/5/16	
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-666-011 Location: <u>1-6 / Z /</u>								
	PPP Rev: <u>E</u>								
140	QC21- Final Inspection - Work Order Release	0.00							
<b>*140*</b>									
QC	Memo	0.00							
Quality Control									

12/5/17 

MLC 12/05/16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist P

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Work Order ID: 81509

\*81509\*

Parent Item: D412-666-011

\*D412-666-011\*

Parent Item Name: Gross Weight Towing

Start Date: 15/03/2012

Required Date: 29/03/2012

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:B Added GHG 002 NG 02-03-06  
IPP Rev:C As per Rev C JLM 07-09-07 Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN6-15A S <i>*AN6-15A*</i> Bolt		Purchased	No			110	Each	138.0000	4	8			
				<u>Location</u>				<u>Loc Qty</u>					
				ST341				138					
					117795			13					
					120423			125					
AN6-45A S <i>*AN6-45A*</i> Bolt		Purchased	No			110	Each	68.0000	4	8			
				<u>Location</u>				<u>Loc Qty</u>					
				ST343				68					
					120187			18					
					120423			50					
AN960JD616 S <i>*AN960JD616*</i> Washer	NAS1149D0663J	Purchased	No			110	Each	0.0000	8	16			
D2888 S <i>*D2888*</i> Lug		Manufactured	No			110	Each	6.0000	2	4			
				<u>Location</u>				<u>Loc Qty</u>					
				ST485				6					
					77934			6					

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JB

120423 SCL

120423 JB SCL

121243 JB SCL

81051 JB 12/05/15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

March-15-12 8:09:41 AM

Page 2

Work Order ID: 81509

\*81509\*

Parent Item: D412-666-011

\*D412-666-011\*

Parent Item Name: Gross Weight Towing

Start Date: 15/03/2012

Required Date: 29/03/2012

Start Qty: 2.00

Required Qty: 2.00

MS21042L6

Purchased

No

110

Each

934.0000

4

8

✓

\*\*

JB 12/05/12

8 \*MS21042L6\*  
Nut

Location

Loc Qty

Loc Code

ST300

934

117677

25

118384

3

118927

48

119075

658

120308

200

119075's etc

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# 1.0 APPLICABILITY:

GROSS WEIGHT TOWING KIT D412-666-011 MAY BE INSTALLED ON DART D205-634-XXX OR D204-635-XXX OR D412-742-XXX SKIDTUBES INSTALLED ON 412 AIRCRAFT TO ALLOW GROUND HANDLING AT GROSS WEIGHT IN ACCORDANCE WITH BELL SERVICE INSTRUCTION BHT-412-SI-58. IT IS ALSO ACCEPTABLE TO INSTALL THIS KIT ON 204/205/210/212 AIRCRAFT EQUIPPED WITH DART SKIDTUBES IN ORDER TO PRESERVE THE LIFE OF THE AFT CROSSTUBES. THIS KIT CONTAINS ENOUGH PARTS TO INSTALL D2888 LUGS ON BOTH SKIDTUBES.

# 2.0 PARTS LIST:

## REFERENCE ONLY

QTY -011	PART	DESCRIPTION
X	D412-666-011	GROSS WEIGHT TOWING KIT
2	D2888	LUG
4	AN6-15A	BOLT
4	AN6-45A	BOLT
8	AN960JD616	WASHER
4	MS21042L6	NUT (or MS21042-6)

# 3.0 WEIGHT AND BALANCE:

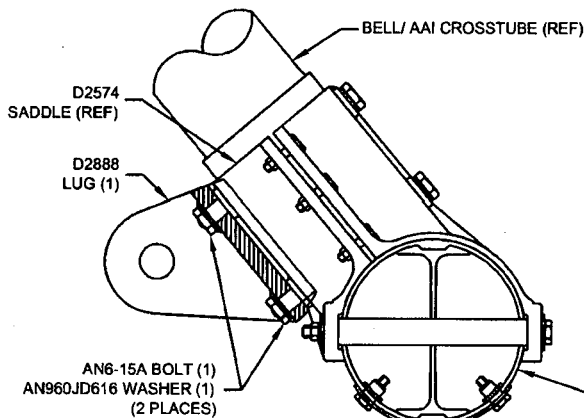
INSTALLATION	WEIGHT	LONGITUDINAL	
		ARM	MOMENT
D412-666-011	1.90 lb 0.86 kg	163.0 in 4.14 m	310 in lb 3.56 m kg

# 4.0 PROCEDURE:

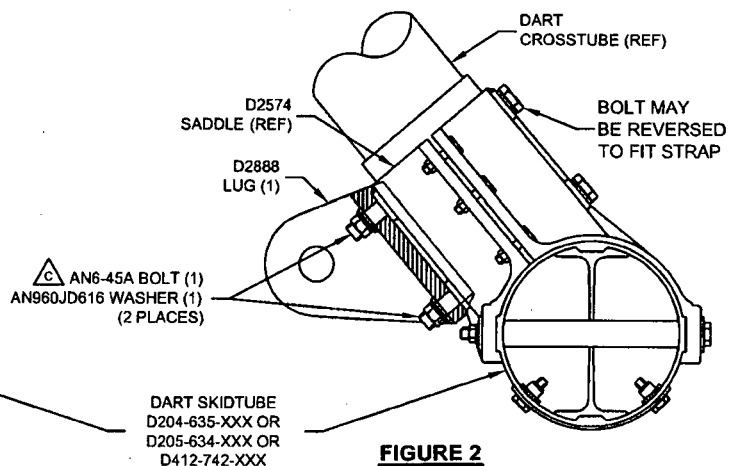
- 1) REMOVE AN6-12A BOLTS (4) ON INBOARD SIDE OF AFT SADDLE AND DISCARD. ON LANDING GEAR WITH DART AFT CROSSTUBES, REMOVE (4) AN6-40A BOLTS.
- 2) INSTALL D2888 LUGS WITH AN6-15A BOLTS (2) AS SHOWN IN FIGURE 1. USE AN6-45A (2) BOLTS ON DART CROSSTUBES, AS SHOWN IN FIGURE 2.
- 3) TORQUE BOLTS TO 95-110 in-lb (10.7-12.4 N-m).

# 5.0 NOTE:

IT IS ACCEPTABLE TO REPLACE THE AN6-15A/45A BOLTS WITH LONGER OR SHORTER AN6 BOLTS AS REQUIRED AND/OR INSTALL EXTRA AN960JD616 WASHERS UNDER NUT TO ENSURE 1.5 TO 4 THREADS IN SAFETY.



**FIGURE 1**  
(BELL/AAI CROSSTUBES)



**FIGURE 2**  
(DART CROSSTUBES)

C	- AN6-45A WAS AN6-43A, ADD NOTES - TO ENSURE COMPATIBILITY WITH D412-742-011/-013 - ESTIMATE (PARTS/PICK LIST) IS AFFECTED	MB	07.08.09
B	UPDATE KIT FOR BOTH SKIDTUBES AND COMPATIBILITY WITH DART CROSSTUBES	CP	02.03.04
A	NEW ISSUE	CP	99.05.03
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>[Signature]</i>		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	N/A	D412-666	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	412 GROSS WEIGHT TOWING KIT	1:4
DATE	07.08.10	COPYRIGHT © 1999 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	